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Anticipated Difficult Airway in Acutely Intoxicated Patient With Severe Facial Injuries

Corinne A. Davis, MD and Adrienne K. Cummings, MD
San Antonio Uniformed Services Health Education Consortium, San Antonio, TX



Introduction:

A known difficult airway is an opportunity to utilize an anesthesiologist's full skill set and oftentimes with thorough planning and careful execution even the most difficult of situations can be handled relatively smoothly.

Case Presentation and Management:

55 y/o male trauma patient, acutely intoxicated on synthetic THC ("Kush"), became confused and walked off an interstate overpass to fall approximately 20 feet. Presented to trauma bay GCS 15, protecting own airway, conversant, able to clear secretions with self suctioning, but with obvious facial deformity from fall and open left femur fracture. Trauma scans revealed the following injuries:

- bilateral complex LeFort III and zygomaticomaxillary fractures
- Comminuted displaced bilateral nasal and nasal septal fractures
- Comminuted displaced mandibular alveolar process fractures
- Possible bilateral internal carotid artery and right vertebral artery dissections
- Open left distal femur fracture

Orthopedics requiring urgent femur ex-fix, and ENT elected to repair multiple facial lacerations and apply arch bars for stabilization of maxillary fractures at the same time. Patient acutely hypertensive SBP>200 /DBP>100 at time of assessment in ICU prior to OR. Actively oozing frank blood from multiple alveolar process fractures and maxillary fractures into oral cavity at the time of assessment in ICU. Patient remained in C-collar secondary to acute intoxication and inability to be clinically cleared. He appeared still acutely intoxicated, as he was easily distracted and somewhat uncooperative with exam.



Un"Kush"ioned Fall:

Discussion:

There were multiple concerns for this patient's airway management according to the ASA difficult airway practice guidelines [1], including difficulty with cooperation, difficult laryngoscopy, and possibly difficult intubation. It is of the utmost importance to have multiple contingency plans in place in a situation such as this, and to thoroughly discuss anticipated problems with the patient (if able) as well as all staff/assistants involved prior to beginning any intervention. According to most experts and the current literature, the gold standard for difficult airway is an awake fiberoptic intubation, which is reportedly successful in 88-100% of difficult airways [1]. However this requires cooperation and understanding on the patient's part, which in our situation was unachievable secondary to acute intoxication.

In this patient we had to balance our goal of safely securing the airway with hemodynamic management goals, as the patient was acutely hypertensive and agitated due to his intoxication. Due to the unknown true nature of his drug use, we were unable to accurately predict his mental state. Reportedly he used a synthetic THC, of which there are many varieties and these are usually mixed with other herbs or substances before use [2]. Most common signs and symptoms of acute synthetic THC intoxication include [2]:

- Agitation, toxic psychosis (possible seizures/hallucinations), or coma (66%)
- Bradycardia, tachycardia, or other CV effects (17%)
- Rhabdomyolysis (6%)

This patient fluctuated between calm and sedated state with almost no expression of pain and acutely agitated and combative state with extreme hypertension.

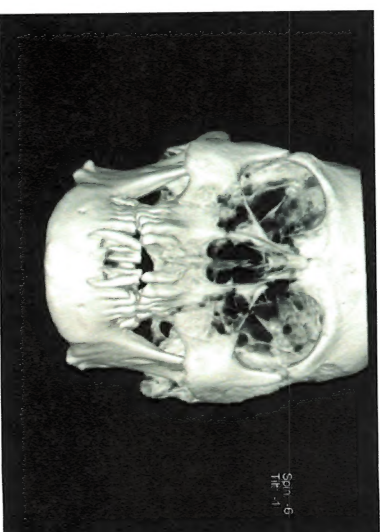
In a trauma patient there are often conflicting goals of care and time-critical interventions that need to be made. In cases where patients have multiple traumatic injuries the anesthesiologist is uniquely positioned to coordinate with all surgical parties involved and help determine the patient's most urgent needs. In this patient his open femur fracture warranted timely intervention but his complex facial injuries required a more thorough evaluation prior to definitive operative fixation.

References:

1. Updated by the Committee on Standards and Practice Parameters, Jeffrey L. Apfelbaum, M.D., Carin A. Hagberg, M.D., Robert A. Caplan, M.D., Chey D. Bitt, M.D., Richard T. Connis, Ph.D., David G. Nicklisch, Ph.D., Carin A. Hagberg, M.D. The previous update was developed by the American Society of Anesthesiologists Task Force on Difficult Airway Management, Robert A. Caplan, M.D., Jonathan L. Benumof, M.D., Frederic A. Berry, M.D., Casey D. Bitt, M.D., Robert H. Bede, M.D., Frederick W. Cheney, M.D., Richard T. Connis, Ph.D., Orrin F. Guirry, M.D., David G. Nicklisch, Ph.D., Andranik Onsesapian, M.D.: Practice Guidelines for Management of the Difficult Airway: An Updated Report by the American Society of Anesthesiologists Task Force on Management of the Difficult Airway. *Anesthesiology* 2013;118(2):251-270. doi: 10.1097/AN.0b013e3182773302.
2. Wang GS. Synthetic Cannabinoids: Acute Intoxication. *UpToDate*. com. https://www.uptodate.com/contents/synthetic-cannabinoids-acute-intoxication?source=search_result&search=synthetic%20cannabinoids&selectedTitle=1~101. Updated January 17, 2017. Accessed July 26, 2017.

Anesthetic Preparation and Management:

An interdisciplinary approach was utilized and the patient was discussed with staff Anesthesiologist, CRNA, and ENT staff and residents prior to bringing patient to the OR. Primary airway plan was topicalization with 5% lidocaine jelly "Jidocaine lollipop" and atropine with Dexmedetomidine followed by an awake glidescope. Contingency plans included fiberoptic tower at bedside as well as cricothyrotomy kit, with ENT on standby at bedside for emergent surgical airway if necessary. Patient did not tolerate awake glidescope for more than a few seconds in his acutely agitated state, but we were able to get a view of the cords and noted that there was minimal bleeding into the pharynx/larynx with our initial manipulation. At that time we elected to perform RSI with Propofol and Succinylcholine as patient was acutely hypertensive (SBP peak 230) and it was felt that the glidescope view was adequate for intubation and could be reobtained with relaxation. Patient was successfully intubated and surgical stabilization of fractures by both ENT and Orthopedics teams proceeded uneventfully.



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